

TVA Purchases Renewable Energy



TVA is increasing its renewable energy portfolio by purchasing 450 megawatts of wind energy. The two contracts will provide enough energy to serve about 140,000 average-size homes in the TVA service area.

CPV Renewable Energy Company to Supply 200 Megawatts

CPV Renewable Energy Company will supply 200 megawatts of wind energy from its Ashley wind farm in McIntosh County, North Dakota. The wind energy will come from 87 Siemens Power Generation 2.3-megawatt wind turbines. Construction is planned to start in 2011, with generation beginning in fall 2012. CPV will manage the facility.



Invenergy to Supply 250 Megawatts

Invenergy/Hurricane Lake Wind Energy I LLC will supply 250 megawatts of wind energy from its Hurricane Lake Wind Energy Center in Roberts County in northeast South Dakota. The wind energy will come from 167 General Electric 1.5-megawatt wind turbines. Construction is planned to start in 2011, with generation beginning in early 2012. Invenergy will manage the facility.

Both contracts are contingent on meeting applicable environmental requirements and obtaining firm transmission paths to TVA.

TVA plans to contract for additional clean energy resources in the future – in support of its goal of having more than 50 percent of its generation from non-carbon-emitting sources that include nuclear, modernized hydroelectric and renewables.



Consistent with the April 2009 TVA Board authorization for renewable energy purchases, these resources have to be competitive with forecasted electricity market prices. The renewable energy credits will belong to TVA.

Background

A wind energy system transforms the kinetic energy of the wind into mechanical or electrical energy. The output of a wind turbine depends on the turbine's size and the wind's speed through the rotor. Wind turbines being manufactured today have power ratings from 1 to 3 megawatts. These can be used as a single unit or grouped together to form large-scale wind farms. The capacity factor, or productivity, of a wind turbine normally ranges from 25% to 40%, although higher capacity factors can be achieved during windy periods. The capacity factor is determined by comparing actual production with the amount of power that would have been produced if the turbine were able to operate at maximum output 100% of the time.

Information about the wind turbines that will be used for the Ashley and Hurricane Lake developments can be found at:

Siemens Power Generation 2.3 MW wind turbines

<http://www.powergeneration.siemens.com/products-solutions-services/products-packages/wind-turbines/products/swt-2-3-93/>

General Electric 1.5 MW wind turbines

http://www.gepower.com/prod_serv/products/wind_turbines/en/downloads/GEA14954C15-MW-Broch.pdf